

Please amend the specification as follows:

At page 2 line 21 to page 3 line 4 please amend the paragraph as follows:

An olefin isomerization process is provided herein which comprises contacting a fluid feed stream containing an olefin with an activated basic metal oxide catalyst under olefin isomerization conditions, the activated catalyst having an initial activity for olefin isomerization and containing an amount of activity-affecting impurity which does not exceed that amount which will result in a reduction [[of]] from the initial catalyst activity at a rate of 0.075 percent conversion loss/hr as measured by the isomerization conversion of 1-butene to 2-butene.

At page 6, line 21 to page 7 line 9 please amend the paragraph as follows:

In a preferred method the isobutene is removed by catalytic distillation combining hydroisomerization and superfractionation in unit 13. The hydroisomerization converts 1-butene to 2-butene, and the superfractionation removes the isobutene in stream 14, leaving a relatively pure 2-butene stream 15 containing some n-butane. The advantage to converting the 1-butene to 2-butene in this system is that the boiling point of 2-butene (1°C for the trans isomer, 4°C for the cis isomer) is further away from the boiling point of isobutylene (-7°C) than that of 1-butene (-6°C), thereby rendering the removal of isobutene by superfractionation easier and less costly and avoiding the loss of ~~1-butene~~ 1-butene overhead with the isobutylene. The relatively pure 2-butene stream 15 is used as a feed stream F for the olefin isomerization process described below.

At page 9, lines 13 to 25, please amend the paragraph as follows:

One of the problems associated with magnesium oxide and other basic oxide catalysts is the shortness of the duration of its catalytic activity under favorable isomerization conditions of high temperature to form the alpha olefin. Conventional magnesium oxide (or other basic metal oxide) catalyst experiences a rapid drop of catalyst activity after about 20-40 hours of operation on-stream. The deactivation rates as measured by the loss of conversion of 1-butene to 2-butene are approximately 0.3 percent conversion loss/hr or higher. Such a rapid loss ~~of~~ from the initial activity either as a fresh catalyst or regenerated catalyst renders the process economically less feasible and inhibits the wider use of magnesium oxide as an isomerization catalyst.

At page 10 line 9 to page 11 line 8, please amend the paragraph as follows:

A significant feature of the basic oxide catalyst used in the present method is its purity. Certain impurities adversely affect the activity of the basic metal oxide catalyst. Activity-affecting impurities such as sulfur or phosphorous (usually in the form of compounds such as sulfides, sulfates, phosphates, and the like) can form highly acidic oxides which lead to undesirable cracking reactions which foul the catalyst and limit the cycle life at desirable isomerization conditions. Likewise, activity-affecting impurities such as transition metal (e.g., iron, chromium, cobalt and nickel in their oxide form) are believed to act as catalysts for various cracking and dehydrogenation reactions which lead to coke formation and also limit the cycle life of the catalyst and desirable isomerization conditions. The amount of activity-affecting impurity should be as small as possible. Preferably, the amount of activity-affecting impurity in the catalyst does not exceed that amount which would result in a reduction of ~~the~~

initial catalyst activity at a rate of not more than about 0.075 percent conversation loss/hr as measured by the isomerization of 1-butene to 2-butene, the catalyst preferably having not more than about 0.050 percent conversion loss/hr, and more preferably not more than about 0.035 percent conversion loss/hr. The 0.075% conversion loss/hr translates into an equivalent of a 1 week cycle length defined by an approximate 15 percent loss in 1-butene conversion over the time period.